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ABSTRACT

This study investigated the characteristics, the socioeconomic benefits, and the strengths and weaknesses of a Michigan business/education partnership that provided a microcomputer application training program for adults. Three sites--Ferndale, Taylor, and Grand Ledge--all part of the Metropolitan Education Commission (MEC), were selected for study. Participants were adult high school dropouts, young high school graduates, or General Educational Development (GED) certificate holders. The MEC started the training program with the Adult Career Training Corporation (ACT) in response to expressed needs for persons trained in computer operations. Instructors were employed by the school district and trained and paid by ACT. Student recruitment and placement were undertaken by ACT in cooperation with the local schools. Qualitative data were collected through site visits and interviews with the president of the business firm, three community education directors from participating school districts, four instructors, a placement service officer, and 18 adult students from a population of 145 adult learners who had successfully completed the program. A review of all qualitative data indicated that the program contributed economic and noneconomic benefits to the participants, to the organizations, and to society. (KC)

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Adult Education/Business Partnership in Education and Training
-The Social Context-

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Abstract

In recent years there has been an increasing interest in various forms of business/education partnerships. In American schools in 1986, approximately 60,000 business-sponsored partnership projects were underway in 90,000 public elementary and secondary schools (Rothman, 1986). However, relatively few of these partnerships provided training and retraining opportunities for adults. Helping adults gain employable skills through the implementation of business/education partnership vocational-training programs has been the goal of some job oriented adult education programs. But, little research has been conducted on the social context of business/adult education partnerships in job-oriented microcomputer training programs.

This researcher investigated characteristics, the socio-economic benefits and the strength and weakness of a Michigan business/education partnership microcomputer application training program for adults in the social context. The findings might help educators and policy makers meet the lifelong learning needs of adults in a high-tech society.

EDUCATION/BUSINESS PARTNERSHIP

An education/business partnership training program is one form a partnership may take. In recent years there has been interest and growth in various forms of education/ business partnerships, from various perspectives including economic development (Committee for Economic Development [CED], 1982, 1983, 1985), educational reform (National Commission on Excellence in Education [NCEE], 1983), corporate involvement in public education (Levin & Trachtman, 1988), and education in partnership with industry (Powers et al., 1988).

Coupled with growth in education/business partnerships, some organizations, including the federal and state governments, schools, foundations, businesses, and industry, are taking an interest in helping adults get employable skills through the implementation of adult education/business partnership vocational training programs. Such partnerships may become an important part of job-skill-oriented adult education programs.

Business-education partnerships are "formal, voluntary relationships between schools and the private sector for the purpose of educational improvement" (The Hemlock Business and Education Partnership [HBEP], 1989, p. 2). The Hemlock Business and Education Partnership is funded by the Michigan Department of Education and is recognized as an exemplary program by the National Association of School Business Officials of the United States and Canada. Some of the major partnership activities in Michigan are cooperative planning, curriculum development, enrichment, field trips, classroom resource people, career awareness, customized education, and co-op/work study programs. In Ohio, advisory committees, cooperative education programs, customized training, school-business partnerships, and joint planning/coordinating councils are major forms

of education/business partnerships (Ohio State Council on Vocational Education [OSCVE], 1987). The form of partnership is different at the local level.

SIGNIFICANCE OF THE RESEARCH

In American schools in 1986, approximately 60,000 business-sponsored partnership projects were underway in 90,000 public elementary and secondary schools (Rothman, 1986). Nationally partnerships between business and education are helping to reduce adult illiteracy, train workers in new skills when technology has eliminated the need for previous skills, and improve opportunities for the social and economic advancement of young, minority people (Arman & Shafer, 1986).

In education/business collaboration, case studies have revealed that both sides have a strong motivation:

> Businesses refer to their own self-interest and their role as corporate citizens; educators point to their need for a strong constituency, their need to provide relevant education for young children, and their appreciation for the expertise that is available in the business community. (Levine & Trachtman, 1988, p. xxiii)

Through these partnerships, all levels of partners-- individual, organization, and society--can benefit by promoting better education and by training and retraining the workforce. Mutual understanding between the business community and the school community is also a desirable benefit.

A recent research report on access and barriers to adult education and training, done by the National Institute for Work and Learning and submitted to the U.S. Congress, stated, "Partnership or collaboration among business, education, organized labor, and/or community agencies is one of fourteen critical elements that lead to program effectiveness in overcoming barriers to participation [in adult vocational education]" (Charner & Fraser, 1986, p. 108).

However, relatively few of these partnerships provided training and retraining opportunities for adults (Charner & Fraser, 1986; WTGF, 1988a, 1988b). Helping adults gain employable skills through the implementation of business/ education partnership vocational-training programs has been the goal of some job oriented adult education programs. But, little research has been conducted on socio-economic benefits of business/education partnerships in job-oriented microcomputer training programs for adults.

Therefore, it was important to investigate characteristics, social impacts and strengths and weaknesses of the business/ education partnership microcomputer application training program for adults in the social context. The findings might help educators and policy makers meet the lifelong learning needs of adults in a high-tech society.

RESEARCH QUESTIONS

Question 1. What are some characteristics of the partnership computer training program?

(1) How was the partnership built?
(2) What is the nature of the partnership?
(3) What are some characteristics of the program components such as (a) program content, (b) instructional process, (c) career development service, and (d) classroom setting?

Question 2. What are social impacts of the partnership computer training program?

(1) What are individual impacts?
(2) What are institutional impacts?
(3) What are community impacts?

Question 3. What are strengths and weaknesses of the partnership computer training program?

(1) Strengths of the program
(2) Weaknesses of the program

SETTING

As of March 1989, seven microcomputer application training programs were being provided to Michigan. These programs were built on the business/education partnership and were supported by State of Michigan aid. Adult education programs at Ferndale, Dearborn, Taylor, Romulus, Garden City, Grand Ledge, and Willow Run operated 24-week (480 hours) job-oriented microcomputer application programs for adults in cooperation with business. For research purposes, three sites were selected for examination in this study: Ferndale, Taylor, and Grand Ledge.

Participants were those adults considered eligible for state-funded adult education programs in Michigan. Included were: (a) non-high-school graduates over 18 years of age, (b) high school graduates under 20 years of age, and (c) General Education Development (GED) certificate holders.

Two day programs (morning and afternoon) and one evening program were offered at each location. A total of 480 hours of instruction was provided from March 1989 to August 1989. The curriculum was the same at each training location. This included keyboarding, Wordperfect 5.0, Lotus 123, spreadsheet, and computerized accounting. Instruction was individualized and self-paced. Each location had three instructors, including one lead instructor. Each student had one Zenith 286 AT computer, a color monitor, printed instructional materials, and access to printers.

METHODOLOGY

To provide information with which to answer the research questions, qualitative data were collected. Many researchers have claimed that a qualitative approach is effective to answer the "what" or "how" questions

(Eckstein, 1975; Merriam, 1988; Yin, 1984). To gather qualitative data, the researcher made site visits and conducted interviews. The data were gathered through interviews with the president of the business partner, 3 community education directors of the participating school districts, 4 instructors, and a placement service officer, and 18 adult students from a population of 145 adult learners who successfully completed a total of 480 hours microcomputer applications program developed as an education/ business partnership at three locations in Michigan. Participation in the interviews was voluntary. Adult students were categorized according to their educational background (non-high-school graduate, high school graduate, and GED holder). At each location, two adult students from each of the three educational background categories participated in an interview. Interviews were conducted on Monday of the final week in location C, and on Tuesday and Wednesday of the final week in locations A and B. Each interview took 10 to 20 minutes.

FINDINGS AND DISCUSSION

Characteristics of the Partnership

How was the partnership built?

The Metropolitan Education Commission (MEC) was established in 1987 with the primary purpose of building partnerships between educational agencies and business, industry, labor, and government; the outcome was identified as the establishment of education/training programs for adults to meet individual and institutional needs. The MEC was formed by 12 school organizations in the metropolitan Detroit area. Those institutions included the Dearborn Public Schools, Garden City Public Schools, Henry Ford Community College, Inkster School District, Plymouth-Canton Community School District, Redford Union School

District, Romulus Community Schools, South Redford School District, Taylor School District, the University of Michigan-Dearborn, Wayne State University, and Wayne-Westland Community School District.

In 1988, MEC representatives approached the Adult Career Training Corporation (ACT, headquartered in Southfield, Michigan) to bring a microcomputer application skill training program into the Romulus school districts adult education program. The MEC had previously been contacted by business and industrial organizations that had experienced difficulty in securing adults who were trained in keyboarding and computer operations. Within three weeks, in addition to the Romulus school district, the Ferndale, Taylor, Garden City, Willow Run, and Dearborn school districts had built partnerships with ACT, through the support and coordination of the Metropolitan Education Commission.

Nature of the partnership

A special licensing agreement was negotiated between ACT and each school district. This agreement was to remain in effect for three years, at which time all equipment and software would become the property of the school district. Remodeling existing classrooms to accommodate the program was the responsibility of ACT. In some cases, where appropriate classroom space was not available, ACT leased space. In other districts, available classrooms were provided by the local adult education programs. Equipment maintenance was the responsibility of ACT.

Instructors were technically employed by the school district. They were paid by the school district for their actual teaching hours in the classroom and by ACT for the rest of their working hours. ACT provided an initial five weeks of pre-service teacher training, as well as continuing in-service training.

Student recruitment and placement were undertaken by ACT in cooperation

with the local school district, and career development services were provided mainly by ACT. Adult students fit into the state full-time equated membership formula. Disbursements were made to each school district, based on full-time equivalency, slot funding regulations. Each school district retained 30% of those funds and reimbursed ACT with the remaining 70%.

Characteristics of the program components

The researcher collected information on the program components from the program developer, instructors, community education directors, and students through interviews and class observation.

Program content

All instructional materials were set up for self-paced progress by each student. Each student was able to control his/her rate of learning. The course modules were as follows:

1) Introduction to microcomputers and disk operating system (DOS). Mastery of file administration was emphasized.
2) Keyboard skills. Speed and accuracy drills in alphabetic entry were given throughout the duration of the course. Additional instruction was given in numeric keypad entry.
3) Word-processing skills. Experience was given in a major word-processing program (Word Perfect, version 5.0).
4) Lotus 123 and spreadsheet concepts. Creation and operation of electronic spreadsheet was covered.
5) Computerized accounting (microcomputer bookkeeping and introduction to accounting concepts). Operations were done with a multi-module accounting package with small-business simulations.

According to instructors, Wordperfect 5.0 and Lotus 123 were chosen because they were more widely used in public- and private-sector organizations than other microcomputer applications.

Instructional process

All of the instructors had Michigan teacher certification. Each instructor underwent five weeks (200 hours) of intensive computer training designed specifically for this microcomputer application training program. In addition, each instructor received monthly in-service continuing education as the curriculum was updated and revised.

The researcher asked the instructors if they were acquainted with the term "andragogy"(Knowles, 1980). Only instructor B knew the term, and he agreed that he had been using an andragogical instructional process. Instructor B had studied adult learning theory in graduate school. The other instructors did not know of andragogy specifically, but their instructional process, as observed and corroborated by students, was comparable to the andragogical model described by Dwyer (1987). With the availability of computers in adult education and the rapidly increasing use of microcomputers, Dwyer (1987) suggested the implications of the Knowles's theories of andragogy for instruction in microcomputer use, as follows:

> 1. Adults prefer self-directed, self-initiated, self-paced instruction. The teacher should act as a resource person and facilitator.
>
> 2. The prior experiences of adults affect their learning in a computer class both negatively and positively. It is the responsibility of the teacher to provide positive experience to reduce apprehension so that the present learning experience becomes meaningful and satisfactory.
>
> 3. Adults must be provided with experiences and opportunities to help them understand how the microcomputer will assist them in their particular circumstances.
>
> 4. Adults desire to learn computer applications which are practical [and] directly useful in life situations. (Dwyer, 1987,p.30)

Dwyer (1987) emphasized that these uses should be made with physical settings such that "computer classes be taught in a computer laboratory .... The

environment should be comfortable with a maximum of two persons per microcomputer" (p.30). She indicated the possibility of using Knowles's (1980) four major assumptions. The instructor's role in the classroom was regarded as that of a facilitator, as evidenced in the interview results.

The curriculum was developed by ACT and was updated monthly. Teams of instructors worked on curriculum development. Each school district received up-to-date curriculum, based on input from more than 120 public school adult educators. The president of ACT said the program was designed for incremental learning because he did not like the letter-grade system (A, B, C, D, F) of the traditional school he had attended. He explained the concept of incremental learning as follows:

> What I designed was an incremental learning program. You start out to learn to type. You type 5 words a minute. Your new goal is 7. You get to 7. Good job, now you go to 9. That's incremental learning, where the tasks are easily achieved in a relatively short period of time.

Career development services

Career development services were considered a vital part of the program, according to instructors. The topics addressed through employability skills training were as follows:

1) Resume-writing skills.
2) How to write a cover letter.
3) How to uncover the hidden job market and use networking skills.
4) Image projection by using fashion consultants, videos and lecture.
5) Interviewing techniques (from filling out the application to sending the "thank you" note).
6) Overcoming rejection.

The job-placement segment of the program began 30 days before the end of the training. Adult students were given an exit interview, which highlighted their knowledge and acquired skills. A career seminar was sponsored to give

adult students an opportunity to meet with potential employers. Placement services were provided primarily by the business partner. The Grand Ledge training location had its own placement officer who was a certified teacher in Michigan and was provided by ACT. Placement services for Ferndale and Taylor were provided by personnel in the business partner's main office in Southfield.

Classroom setting

The microcomputer training classrooms in Ferndale and Taylor were set up in adult education facilities by remodeling existing classrooms. In the case of Grand Ledge, where appropriate classroom space was not available, the business partner leased space. The classrooms were set up like offices in any business, industrial, or governmental organization. Each classroom had 30 sets of Zenith Z-286-Lp AT computers with 20 MB hard disk drives and Analog color monitors. There were 30 student work stations, complete with work tables, and secretarial-style swivel chairs. There were 15 Panasonic dot-matrix printers with graphics, so that two people shared one printer. All three classrooms were carpeted and air-conditioned.

Social Impacts of the Program

The president of ACT, the community education directors of participating school districts, and the lead instructors at each location were asked: "What are the socio-economic benefits of this partnership computer training program?" The 18 adult students were asked, "What would be your benefit in attending this program ?" Social impacts of the program were categorized into impacts on the individual adult participant, on organizations (school and business partners), and on society.

Individual impacts on adult participants

First of all, the program is provided tuition-free to participants. It would cost "about $4,000 if they had to pay for it," according to instructor B, but it is funded by the state of Michigan.

The community education director from school district A pointed out that "by the year 2000, 80% of the jobs will require some computer knowledge. These adult students had not been exposed to the computer and it's going to be required." The program enabled students to be placed in a computer skill area according to how they could perform. That placement was in data entry or in word processing, according to participants' skills and interests.

Students agreed that they received both economic and non-economic benefits from the program. Most students said they would benefit by getting a job, getting a better education, and learning computers. Three of the 18 student interviewees said that they wanted to go to a community college because they had been motivated by the computer-training experience. Some students described their benefits as follows:

> A higher paying job, more professionalism, advancement in the job field mainly.

> Learning a new way of getting it done faster and better. Getting myself to know that I can do it, and go out and get a better job. Also I decided to go to Lansing Community College to develop myself more and more.

> Well, I learn a lot. They help me find a job. I think everything is turning towards computers anyway.

> Hopefully I will get trained enough to get a job. I would like to get into something else, that's why I came here to begin with because I don't have any training at all and I hope to be trained at least enough some day to get a job doing this.

Many adult students entered the program with career changes in mind. Adult students expressed that they definitely thought they "got an upgrading." They

learned a skill, their self-esteem increased, and they also received job placement assistance. Both the business partner and the school aggressively attempted to place participants in the job market. Graduates could expect to earn between "$5 and $8 an hour right out of the classroom and to make $10 to $14 an hour three years out of the classroom," according to those interviewed. According to the ACT program director, 67% of the program completers in the seven sites were employed as of October 1, 1989. Placement services continued for each participant after program completion. Fifty seven percent of the program completers found jobs before graduation and 10% found jobs after graduation.

In short, individual adult participants had the economic benefits of tuition free training and free career development services. As for non-economic benefits, for many participants doors were opened to different possibilities in life, such as further education. The program reached those who might not otherwise have had the opportunity for gaining skills.

Organizational impacts on the school districts

The school district also received economic and non-economic benefits from this program. The community education directors from the three school districts recognized the same benefits as accruing to the school district. Responses of the community education directors from school districts B and C were as follows:

> There are several [benefits], one is the financial benefit, which is obvious since we have the 70 - 30 split between business partner and school partner. We realized an additional amount of money for our general fund this year, which allows us to do programs we wouldn't normally be able to do, also it helps us address what our mission is, which is to teach, and this is a specific population.
> (Community eduction director from school district B)

> We didn't offer anything like this before. People who are interested in adult training now come into our school, and they bring friends and relatives with them for some of our other programs. It gives us high visibility.

(Community eduction director from school district C)

Other comments made during the interviews indicated that adult education programs did not have the financial or human resources necessary to implement such a program on their own. Teachers, recruiters, placement personnel, and curriculum developers would have to be hired and trained. The main reason school districts built a partnership program was that the computer training center was installed quickly and easily, with no financial outlay on the part of the district. It took a business, a private entity like ACT, which had the resources to be able to set up the training facilities. According to the community education director from school district A, a school district "with scarce resources does not have the ability to come in and set up a 30, 40 computer complex like this. It would have taken about $300,000 to start such a program."

A second economic benefit to the districts was that all equipment --the computers, tables, and chairs-- was to become the property of the school district at the end of the three-year licensing agreement. The districts would also have a trained cadre of teachers by that time.

A non-economic benefit was that school districts were being recognized as adult training facilities as well as adult basic education facilities. One community education director commented that "we gained more visibility and better ties with business and industry in our community, serving adult training needs rather than just the academic needs of adults."

Instructors agreed with the community education directors about the benefit to the school districts. The program increased community education enrollments and retention rates. Instructors mentioned that:

> Our classroom is probably one of the fullest in the school, so that's good.

> I think it gives the school district another vehicle by which to meet the needs of their adult population.

Organizational impacts on the business partner

Economic and non-economic benefits were also realized by the business partner. Financial benefits were the concern of business, but the researcher got the impression from the president of the business-partner organization that his interest went beyond financial matters. He felt good about helping people who were educationally disadvantaged. He thought his company was promoting high-quality education to meet people's lifelong learning needs, and he was proud that his training program was providing skilled manpower to local employers. One instructor mentioned, "I'm sure [ACT] feels good about themselves for creating a program like this." Instructors, who were technically employees of the school district and were paid by both business and school partners, regarded themselves as school teachers. Their attitudes showed a desire to make and improve the business partner's public image. One instructor mentioned:

> We are still teachers so we still have the attitude, like any teachers in the schools, which is to help the student, to help the person, to help the person grow and get somewhere. And the company wants to have that, wants to feel that way, but at the same time companies have to earn a profit.

Community impacts

The major economic benefits to society were that employers in the community had a better, more skilled work force. Adult participants' quality of life increased as those who were formerly unemployed became wage earners. As such, they became positive elements in the economic life of the community. Some adult participants who had been on welfare or Aid to Families with Dependent Children (AFDC), and some of the participants with part-time jobs, secured full-time

employment.

The director of community education from school district C said:

> The benefit is that the community is provided people with better skills who have six months training in these sorts of things that a lot of people have not had.

Instructors agreed with the community education directors in terms of benefit to society:

> I would say students who are unemployed can now have the opportunity to receive jobs. They're trained in a field where they're much needed. So a lot of people are getting off unemployment. Also an employer gets somebody that he can easily cross-train. So he benefits tremendously.

Employers could take any one of these graduates and cross-train them easily in any other computer system. The president of the business-partner organization said, "Once they've been through 480 hours, they can learn anybody's system."

Strengths and Weaknesses of the program

The 18 adult students were asked, "What are the strengths and weaknesses of the program?" Their responses are discussed in the following pages.

Strengths of the program

Students' responses about program strengths included all the four components of the program: the instructional process, their skill attainment, the career development services, and the classroom setting. Those components were found to affect the adult participants' self-esteem development. In addition, the tuition-free training was pointed out as an important strength of the program. Adult participants spoke about the strengths of the program as follows:

I think I would have to say the instructors are very good, I think, and the school is. You've got your own computer to work on and you get a lot of help and a lot of assistance, not just instruction but what you do after you finish school, and how you go about things. They give you a lot.

The instructors, and the attitudes of the students too. You have to have that commitment and attitude that you want to better yourself and better your education and you want to learn.

It's the hands-on training, you don't feel like you're in a classroom. It's more like if you were on the job and the practice that they give you and its more something that you could use in an office if you needed to.

A job-setting classroom like a business office is great.

Going at your own pace, not having your teachers being authoritative with you. That is a strength.

She can't tell you to go sit in the corner or put your nose in a chalkboard. You know, they're just not authoritative.

It's updated. What we learn from here is the freshest thing in business. That's what the offices are asking for. I love it, it's good.

I like everything about it. There aren't really any better or any worse parts, I like it all.

I think it's flexible. I've been able to come in early if there were computers available, and that way spend more time. I guess it's just knowing that somebody is there if you need help.

Another strength that students pointed out was that they were motivated by getting help, as people who could not help themselves. The program provided an opportunity for adults to come and it did not cost them anything. "It's great that all I had to do was learn," one student said.

Weaknesses of the program

Five of the 18 adult participants who were interviewed said they could not find any weaknesses in the program. They commented:

Weaknesses, hummmm. I couldn't think of any right now.

I doubt if there is any weakness.

There are none in my eyes.

There hasn't been any problem at all.

Not for me. I've gotten a lot out of it.

Seven participants of the 18 interviewees pointed out that they needed more time:

> The weakness is I think it's not long enough. It just kind of puts your feet in the door like in opening up a new world, for me at least.
>
> I'm not saying about the other people but if it was just a 9 month course because you can't learn a whole lot in this short period of time but I have accomplished quite a bit.
>
> I'll be starting Lotus at the end of this week. And I probably won't have time for the accounting.
>
> The program was tight, it was too much you had to try to learn within a six month period, it should have been at least 7 months long.
>
> It's just too short. It should be longer except it is good. I've been telling friends about it. It's a good program and they should get into the program.
>
> Not enough time. We need more time I think.
>
> I wish I were here all day really. You know if we could come in a little more than what I do. Once I get in here I find I wish I would have been able to come in earlier and stay later than I could.

A possible reason adult participants noted a lack of time to learn all of the program was that the program was designed to be self-paced. One might infer that many participants learned at a slower pace.

Four participants noted that they needed to practice with typewriters before going to job interviews because the employer gave a typing test with typewriters, not with microcomputers (word processors).

Two participants from location B pointed out that what they really didn't like was that the word processor software was Wordperfect 5.0, but that the book

was for the 4.0 version, with changed instructions. One of them said, "It was very confusing; it was really tedious trying to figure everything out."

CONCLUSION

A review of all qualitative data indicated that the program contributed economic and non-economic benefits to the participants, to the organizations and to society. Participants pointed out the strengths of the four components of the program. Tuition-free training, funded by the state of Michigan, was an important strength of the program. The major weakness of the program, according to participants, was a shortage of time. The partnership between education and business resulted in a more comprehensive and effective training opportunity than either education or business could have accomplished alone.

The school district built a partnership with business to meet the needs of a specific group of adults without encumbering a large financial burden. The school districts had very few computers in adult education and the computers they did have were outdated and mainly useful for tutorial programs. The school districts did not have any state-of-the-art equipment, which the ACT program was able to provide. The program brought economic as well as non-economic benefits to the communities. Districts received income; provided skill training for needy adults; furnished trained adults to community business, industry, and government agencies; and enhanced their image as organizations capable of responding to individual, organizational, and societal needs.

The partnership between education and business resulted in a more comprehensive and effective training opportunity for adults than either adult education or business could have accomplished alone. Programs such as the one examined in this study can help to meet the lifelong learning needs of adults in

a high-tech society.

FUTURE RESEARCH AND APPLICATIONS

A similar study should be conducted in a different partnership setting to compare the results and findings with those from this study. A study should be made to examine the effects of another partnership training program from the perspective of the political economy of adult education because individuals, organizations, and society were identified as the beneficiaries of the program.

Both private businesses and public schools should develop and expand programs similar to the one examined in this research for helping educationally disadvantaged adults to obtain jobs and hence to improve the quality of their lives. Both partners should recognize that continuation of a quality program will be contingent upon adequate funding, teacher selection, staff development, pre-service training, continuing in-service training, and quality of the instructional design. Policy makers should support the expansion of job-oriented microcomputer training partnership programs across the state and the nation in order to help societies function well and to enhance the quality of life, which has been a primary aim of adult and continuing education in a high-tech/high-touch society. Adult educators, policy makers, and school officials are encouraged to use this information in planning and evaluating job-oriented microcomputer application training for adults and in selecting the instructional process, the content, the career development services, and the classroom setting.

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